

Green your Fleet

Fleet Management Software

June 4, 2010

Rob Donahue
Manager, Strategic Accounts



Agenda



- What do we mean by Fleet Management Software
- GPS / AVL / Telematics
- What can we tell you about driver behavior?
- What can we tell you about the vehicle?
- Q&A

Defining Fleet Management Software



- Specifically GPS Tracking or Telematics
- The ability to show in real time the location, status, and behavior of a vehicle
- Ability to monitor any type of vehicle; Light, Medium, or Heavy Duty
- Web based application: available any time, any where



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Row	Latitude	Longitude	Message Time	Odometer	Max Speed	Key On	Address
15	36.92018	-76.03968	6/3/10 11:36:33 AM	89409.4 mi	53	On	2223 Shore Dr Virginia Beach, VA 23451 US
14	36.91278	-76.06613	6/3/10 11:34:28 AM	89407.9 mi	46	On	2801 Shore Dr Virginia Beach, VA 23451 US

- The term ***telematics*** (synonymous with [telemetry](#))
- The integrated use of [telecommunications](#) and [informatics](#), also known as ICT ([Information and Communications Technology](#)). More specifically it is the science of sending, receiving and storing information via telecommunication devices

Source: Wikipedia

GPS 101



First GPS satellite launched	1978
Number of actively broadcasting GPS satellites	31
Weight of a GPS satellite	2,000 lbs
Distance from Earth at which they orbit	12,000 miles
Speed at which they travel	7,000 mph
Number of times they orbit the Earth per day	2
Average accuracy of civilian GPS in 2000	109 yards
Average accuracy today	16 yards
Amount the government has spent on GPS technology to date	\$16 billion
Cost of maintaining the system per year	\$800 million
Cost of first hand held GPS in 1989	\$3,000

GPS stands for Global Positioning System, and refers to a group of U.S. Department of Defense (DoD) satellites that are constantly circling the earth. This allows anyone with a GPS receiver the ability to determine their position on Earth

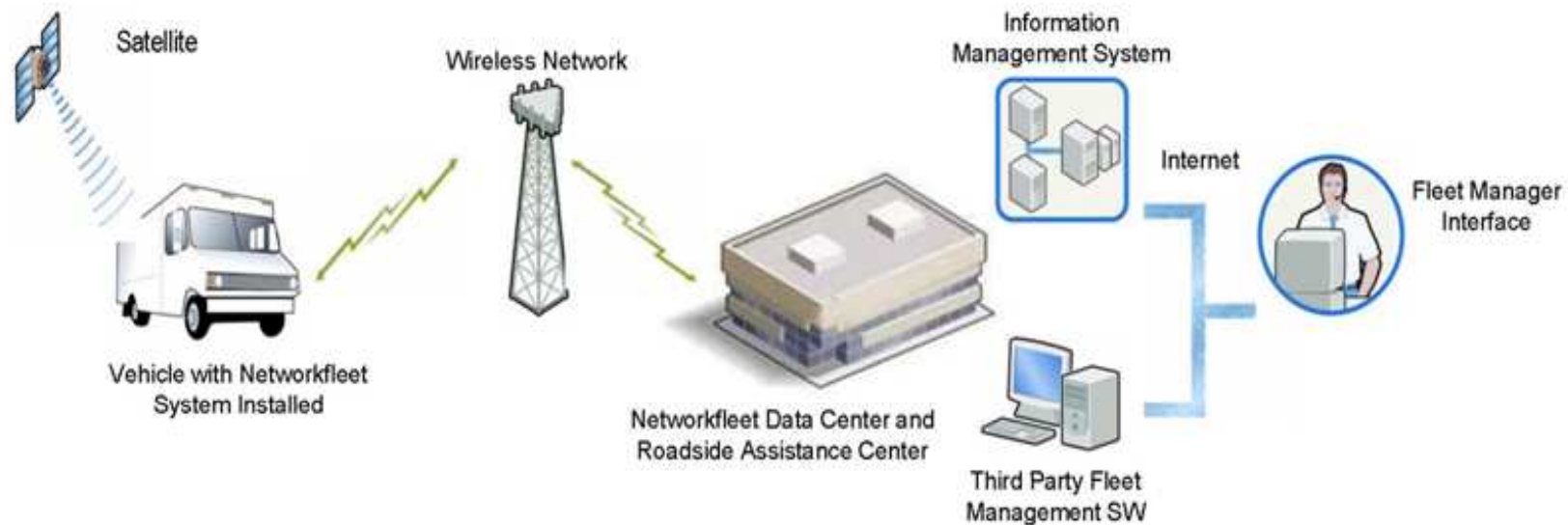
Source: Field and Stream 2008

How does GPS Work?

- Components:
 - » **Satellites with Line of Sight**
 - » **Fixed station** (*Differential GPS*)
 - » **Receiver**
- Receivers process signals from four or more satellites every second
 - » **Calculates the time interval between transmission from the satellites and reception to determine geographical location**



How “most” systems work



1

Vehicle is equipped with Telematics device that collects location data via GPS and monitors vehicle status.

2

Device transmits data via Wi-Fi, Cellular, or Satellite.

3

Data collected can be accessed on computer (SaaS or Client Server) Reporting is generated, Alerts sent, etc.

Driver/Vehicle Behavior



- Location
- Idle Time
- Speed
- MPG Trends
- Best Route
- Avoid Traffic
- Efficient Dispatching
- Vehicle Health

Idle Alerts



Vehicle Label ▲
FIELD SERVICE REP-NORTHEAST (GPS ONLY)
FIELD SERVICE REP-NORTHEAST (GPS ONLY)
FIELD SERVICE REP-NORTHEAST (GPS ONLY)
FIELD SERVICE REP-NORTHEAST (GPS ONLY)
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FIELD SERVICE REP-NORTHEAST (GPS ONLY)
FIELD SERVICE REP-NORTHEAST (GPS ONLY)

Create Activity Alert

Activity Alert Details

Alert Type: Idle Time Alert

Alert Subject:^A

Alert Priority:^A

Critical ▼

Alert Description:

Critical
Non Critical
Warning

 vehicle

Maximum Notifications:

Account Email: ☐ Networkfleet Networkfleet

Additional Email Recipients: + -

SMS Recipients: + -

Violation Window:^A

12 AM ▼

 to

12 AM ▼

Full Week ▼

+

Minimum Idle Duration:

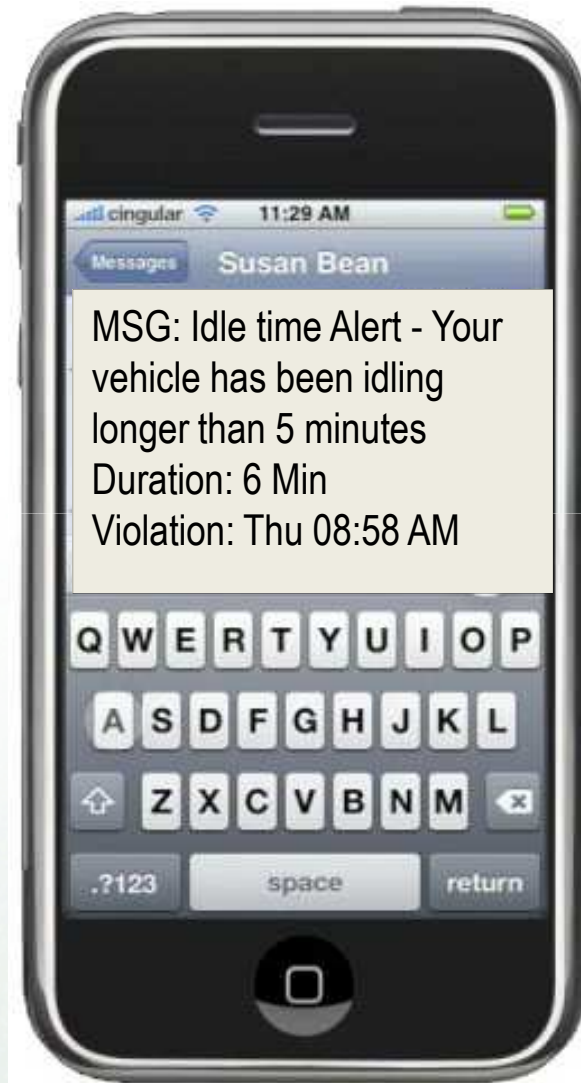
5 ▼

 minutes

Location
3221 Mountain Rd, Pasadena, MD 21122 US
1423 New York Ave NW, Washington, DC 20005 US
Springfield, VA 22150 US
Springfield, VA 22150 US
Pinewood Dr, Pasadena, MD 21122 US
1087 Vena Ln, Green Haven, MD 21122 US
7734 Overhill Rd, Glen Burnie, MD 21060 US

Vehicle Label	Date	Time	Description	Alert Type	Date	Time	Location
FIELD SERVICE REP-NORTHEAST (GPS ONLY)	05/26/2010	09:43 AM	FSR vehicle 5 min idle warning	Warning	05/26/2010	09:48 AM	Pinewood Dr, Pasadena, MD 21122 US
FIELD SERVICE REP-NORTHEAST (GPS ONLY)	05/26/2010	03:24 PM	FSR vehicle 5 min idle warning	Warning	05/26/2010	03:32 PM	1087 Vena Ln, Green Haven, MD 21122 US
FIELD SERVICE REP-NORTHEAST (GPS ONLY)	05/27/2010	03:50 PM	FSR vehicle 5 min idle warning	Warning	05/27/2010	04:04 PM	7734 Overhill Rd, Glen Burnie, MD 21060 US

Alerts



Idle Time Report



Report: Idle Time

Report Run Date/Time 06/03/2010 08:06 AM
Report Time Period 05/01/2010 12:00 AM - 06/01/2010 12:00 AM
Group Name TRUCKS

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Show 50 per page.

Vehicle Label ▲	VIN	Year Make Model	Starting Mileage	Ending Mileage	Distance Traveled	Percent of Time Idle	Hours Idle	Drive Hours	Total Operating Hours	Maximum Speed Range	Average MPH	Vehicle Begin Date	Vehicle End Date
H-FREIGHTLINER-05	1FV3GFBC51HH08645	2000 FL60 FREIGHTLINER	106,717	107,017	300	32.13	4.84	10.24	15.08	60.0-70.0	29.31	5/3/2010	5/30/2010
H-INTERNATIONAL-6	1FV3HJAA6XHB19693	1999 INTERN FL70	30,286	30,439	153	65.27	9.87	5.25	15.12	60.0-70.0	29.14	5/4/2010	5/31/2010
H-INTERNATIONAL-8	2HTFBASR1WC058936	1998 EAGLE INTERNATIONAL										5/10/2010	5/28/2010
U-PETERBILT-2	1XP4D59X2HP204920	1986 PETERBILT PETERBILT										5/10/2010	5/27/2010
U-PETERBILT-3	1XP5LB9X0KD270381	1989 SEMI PETERBILT										5/10/2010	5/24/2010

5 rows found, displaying 5 rows, from 1 to 5.

Show 50 per page.

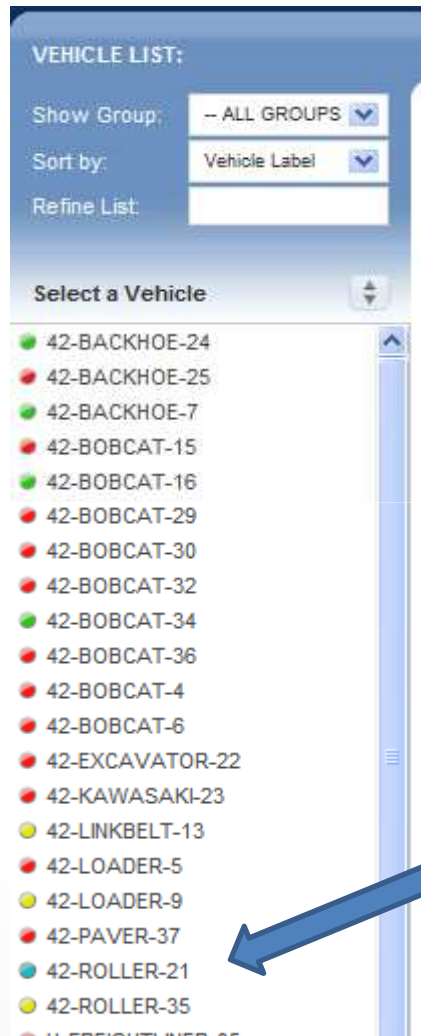
Percent of Time Idle Hours Idle Drive Hours Total Operating Hours

32.13	4.84	10.24	15.08
65.27	9.87	5.25	15.12
37.27	28.97	48.77	77.74
71.04	19.5	7.95	27.44
42.25	30.77	42.05	72.81

Real Time Capture of Idle



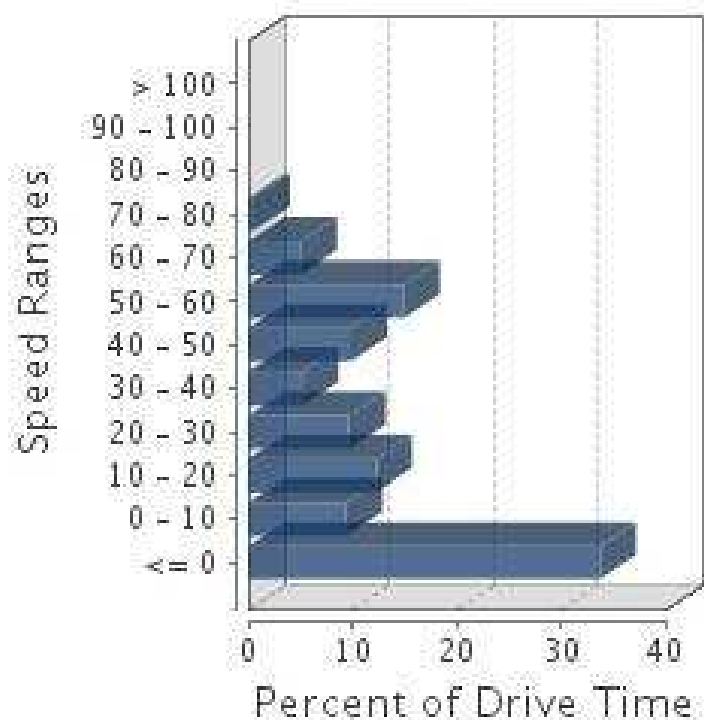
Vehicles denoted by a blue icon have been idling continuously for 2 minutes or more.



Speed Trends



Speed History



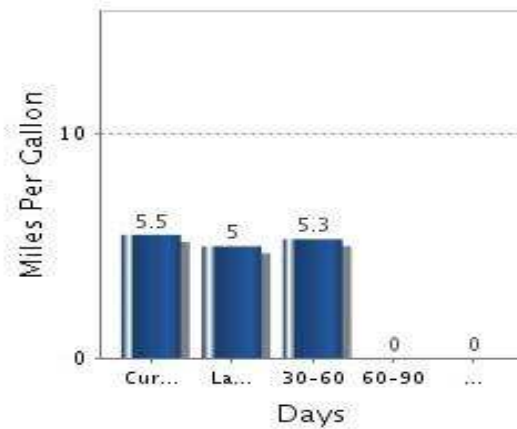
Speed Ranges	% Drive Time
0	33.71 %
0-20	21.55 %
20-40	14.91 %
40-60	24.7 %
60-80	5.12 %
80-100	0 %

MPG Trends



MPG

MPG Trends



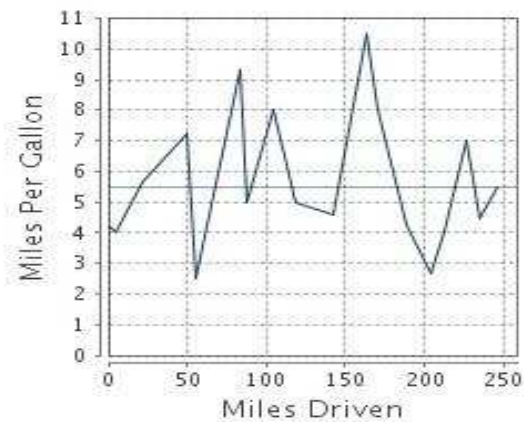
Time Range

Miles Per Gallon

Current	5.49
Last 30 Days	4.99
30-60 Days	5.3
60-90 Days	Not Available
90-120 Days	Not Available

FUEL EFFICIENCY

Fuel Efficiency



Qualities

Miles Per Gallon

Average MPG	5.47
Highest MPG	10.5
Lowest MPG	2.5

Diagnostic Data



Type	Units	06/03/2010 01:34 PM
Active DTCs (Emiss.)		N/A
Pending DTCs		N/A
Current ECM DTCs		N/A
Keyon time	sec	268
Run time	sec	547340
Instantaneous fuel economy	MPG	0.0
Average fuel economy	MPG	6.3
Total engine hours	hr	4789.4
Total PTO hours	hr	11.1
Total idle hours	hr	2366.8
Total idle fuel used	gal	2378
Total fuel used	gal	7181

Diagnostic Scan



Type	Units	06/04/2010 04:41 AM	06/03/2010 04:09 PM	06/03/2010 02:34 PM
MIL Light		off	off	off
Active DTCs (Emiss.)		N/A	N/A	N/A
Pending DTCs		none	N/A	N/A
Current ECM DTCs		N/A	N/A	N/A
Ignition Timing Advance (ATDC)	deg	9		
Battery (on)	V	15.0		
Battery (off)	V	12.6		
Calculated Load Value	%	100.0		
Air Flow Rate MAF Sensor	gm/s	155.81		
Engine Speed	RPM	3421		
Engine Coolant Temp.	degF	75		
Intake Air Temp.	degF	70		
Abs. Throttle Position Sensor	%	45.5		
Short Term Fuel Trim, Bank 1	%	-3.9		
Long Term Fuel Trim, Bank 1	%	0.8		
Fuel System Status/B1		open		
Fuel Pressure		0x8500		
Intake Manifold Abs. Pressure	KPa	96		
Oxygen Sensor Location		B1S1 B1S2 B2S1 B2S2		
Bank 1 Sensor 1 Fuel Trim	%	-7.1		
Bank 1 Sensor 1 Voltage	V	0.820		
Bank 1 Sensor 2 Fuel Trim	%	100.0		
Bank 1 Sensor 2 Voltage	V	0.815		
Bank 2 Sensor 1 Fuel Trim	%	7.9		

Air Flow Rate MAF Sensor	gm/s	155.81
Engine Speed	RPM	3421
Engine Coolant Temp.	degF	75
Intake Air Temp.	degF	70
Abs. Throttle Position Sensor	%	45.5
Short Term Fuel Trim, Bank 1	%	-3.9
Long Term Fuel Trim, Bank 1	%	0.8

Vehicle Health



- Diagnostic Trouble Codes
- Check Engine Light (MIL)
- Maintenance
- Smog Status: *California Continuous Testing*

DTC ALERTS					
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Alert	Alert Type	Alert Description	First Read ▲	Most Recent Read	Status
P0113	Intake Air Temperature Circuit High Input	Engine temperature sensor may not be fully operational	08/19/2009 02:26 PM at 103761.0 miles	08/19/2009 02:26 PM at 103761.0 miles	Active
P0113	Intake Air Temperature Circuit High Input	Engine temperature sensor may not be fully operational	08/19/2009 02:26 PM at 103761.0 miles	08/19/2009 02:26 PM at 103761.0 miles	Pending
P0122	Throttle/Petal Position Sensor/Switch A Circuit Low Input	Gasoline delivery system may not be working correctly	08/19/2009 02:26 PM at 103761.0 miles	08/19/2009 02:26 PM at 103761.0 miles	Active
P0122	Throttle/Petal Position Sensor/Switch A Circuit Low Input	Gasoline delivery system may not be working correctly	08/19/2009 02:26 PM at 103761.0 miles	08/19/2009 02:26 PM at 103761.0 miles	Pending
P0037	HO2S Bank 1 Sensor 1	powertrain sensor malfunction	103761.0 miles	103761.0 miles	
P0031	HO2S Bank 1 Sensor 1	powertrain sensor malfunction	103761.0 miles	103761.0 miles	
U2106 NISSAN	Unknown Network DTC	Vehicle is reporting a potential network sensor malfunction	08/19/2009 02:26 PM at 103761.0 miles	08/19/2009 02:26 PM at 103761.0 miles	Active
U2106 NISSAN	Unknown Network DTC	Vehicle is reporting a potential network sensor malfunction	08/19/2009 02:26 PM at 103761.0 miles	08/19/2009 02:26 PM at 103761.0 miles	Pending
8 alerts found, displaying 8 alert(s), from 1 to 8.			Show 50 per page.		

Smog Report: Pass/Fail



Report: Smog Check

Report Run Date/Time: 06/04/2010 05:39 AM
 Group Name: ALL VEHICLES
 Smog Check Failure Criteria: MIL on or Monitors not ready - 2 if '96-'00/1 if '01 or later

Number of Vehicles Included in Report: 8
 Number of Failing Vehicles: 1
 Number of Passing Vehicles: 6
 Number of Ineligible Vehicles: 1

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Show: 50 per page.

VIN ▲	License	Year Make Model	Fuel Type	Mil	Active DTCs	Catalyst	Fuel System	Oxygen Sensor	Secondary Air System	Misfire	Comprehensive Component	EGR System	Evap. System	Heated Catalyst	AC System	Oxygen Sensor Heater	Smog Check Pass/Fail	Last Smog Check
1GKFK26379R221710	BRP6253	2009 GMC YUKON	Gasoline	off		comp	comp	comp	nsup	comp	comp	nsup	comp	nsup	nsup	comp	PASS	6/4/2010
1GNDT13S12NWC345	345NWC	2002 CHEVROLET TRAILBLAZER	Gasoline	off		comp	comp	comp	nsup	comp	comp	nsup	comp	nsup	nsup	comp	PASS	6/3/2010
2HNYD18671H536277	5GZC914	2001 ACURA MDX	Gasoline	off		comp	comp	comp	nsup	comp	comp	comp	comp	nsup	nsup	comp	PASS	6/3/2010
5GTDN13616NWC678	678NWC	2006 HUMMER H1	Gasoline	off		comp	comp	comp	nsup	comp	comp	nsup	comp	nsup	nsup	comp	PASS	6/1/2010
5GZEV23747J175351	9959 VK	2007 SATURN OUTLOOK	Gasoline	off		comp	comp	comp	nsup	comp	comp	nsup	comp	nsup	nsup	comp	PASS	6/3/2010
SN1A08VXX																		6/2/2010
JT8BF28G1																		6/2/2010
YV1RS61T																		6/2/2010
			Fuel Type	Mil	Active DTCs	Catalyst	Fuel System	Oxygen Sensor	Secondary Air System	Misfire	Comprehensive Component							
			Gasoline	off		comp	comp	comp	nsup	comp	comp							
			Gasoline	off		comp	comp	comp	nsup	comp	comp							

Smart Dispatch



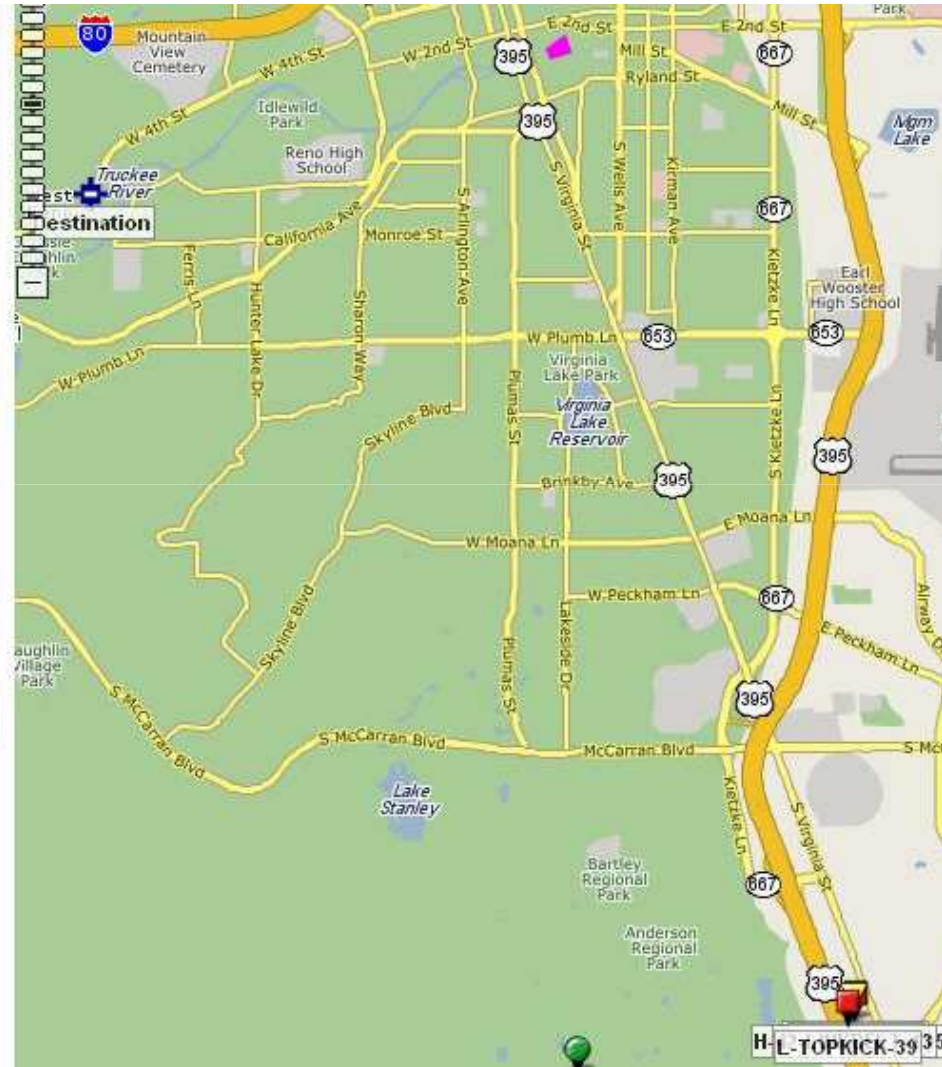
ADDRESS Change

3065 W 4th St, Reno, NV 89523 US
39.5156 / -119.8508

CLOSEST VEHICLE

Show Group: ALL VEHICLES

42-ROLLER-21	4.1 mi
42-BACKHOE-7	4.1 mi
42-BOBCAT-30	4.1 mi
H-INTERNATIONAL-6	4.2 mi
42-BOBCAT-34	4.8 mi
H-FREIGHTLINER-05	5.3 mi
L-4RUNNER-29	5.3 mi
L-ESCAPE-14	5.3 mi
42-LINKBELT-13	5.4 mi
L-TOPKICK-39	5.4 mi



Maintenance



Alerts:

DTC Alerts		Maintenance Alerts	Recalls
P0135	Active	205000 MILE SERVICE	Currently no Recalls
			View More

Service Record Details

Invoice Date:

8/19/09 12:00:00 AM



Mileage: *

300000.0

Repair Cost:

\$ 32.95

Service Description: *

Oil Change

Last Modified on:

8/19/2009

Questions?